What is claimed is:

1. A semiconductor device comprising:

a first base region which is of a first conductivity type;

a second base region which is of a second conductivity type and which is selectively formed on a major surface of the first base region;

a stopper region which is of a first conductivity type and which is formed on the major surface of the first base region, the stopper region being a predetermined distance away from the second base region and surrounding the second base region; and

a ring region which is of a second conductivity type which is formed on the major surface of the first base region between the second base region and the stopper region, the ring region being spirally around the second base region and electrically connected to the second base region and the stopper region.

2. The semiconductor device according to claim 1, wherein the ring regions are plural and formed in parallel, each of the plural ring regions being connected to the second base region and the stopper region.

3. The semiconductor device according to claim 1, wherein a resistance of the ring region becomes lower from a side of the second base region toward a side of the stopper region.

4. The semiconductor device according to claim 1, further comprising a sense electrode electrically connected to a part of the ring region, the sense electrode being used for detecting a divided voltage applied to the stopper region.

5. The semiconductor device according to claim 1, wherein a circular ring portion, which is surrounding the second base region in a circular ring shape and connected to the second base region, is formed in an inner most circumferential portion of the ring region on the major surface of the first base region, and the

ring region is connected to the second base region via the circular ring portion.

6. The semiconductor device according to claim 1,

wherein corner auxiliary members are formed in corner portions of the ring region, the corner auxiliary members being electrically connected to the ring region and having a resistance lower than the ring region, and

wherein lengths of straight portions which are portions of the ring region excluding the corner portions are equal irrespective of whether the straight portions are on an inner circumferential side or on an outer circumferential side.

7. The semiconductor device according to claim 1, wherein $V_{BD}/R_{ring}$ which is a leak current $I_{leak}$ is designed to be equal to 1 $mA/cm^2$ or less, where $V_{BD}$ is a withstand voltage of the semiconductor device and $R_{ring}$ is a resistance of the entire ring region.

8. A semiconductor device comprising:

a base region which is of a first conductivity type;

an anode region which is of a second conductivity type and which is selectively formed on a major surface of the base region;

a surface protective film which is formed on the major surface of the base region;

a conductive field plate which is formed in a circular ring shape on the surface protective film to surround the anode region; and

an auxiliary electrode which is formed in the surface protective film and electrically connected to the field plate, a capacitance being formed between the auxiliary electrode and the base region.

9. The semiconductor device according to claim 8, wherein the field plates are plural and the field plates are formed separately from one another from an inner circumferential side toward an

outer circumferential side, and

the auxiliary electrodes are plural and the auxiliary electrodes are formed separately from one another from the inner circumferential side toward the outer circumferential side.

10. The semiconductor device according to claim 8, wherein the auxiliary electrode is made of high-melting-point metal.

11. The semiconductor device according to claim 8, wherein the auxiliary electrode is made of polycrystalline silicon.

12. A semiconductor device comprising:

a base region which is of a first conductivity type;

an anode region which is of a second conductivity type and which is selectively formed on a major surface of the base region; and

a ring region which is of a second conductivity type and which is formed in a circular ring shape on the major surface of the base region to surround the anode region, the ring region having an impurity concentration lower than the anode region.

13. The semiconductor device according to claim 12, wherein the ring regions are plural and formed separately from one another from an inner circumferential side toward an outer circumferential side.

14. The semiconductor device according to claim 13, wherein the ring region provided at an inner most circumferential portion is electrically connected to the anode region.

15. The semiconductor device according to claim 12, further comprising:

a surface protective film which is formed on the major surface of the base region;

a conductive field plate which is formed in a circular ring shape on the surface protective film to surround the anode region;

and

an auxiliary electrode which is formed in the surface protective film and electrically connected to the field plate, a capacitance being formed between the auxiliary electrode and the base region.

16. The semiconductor device according to claim 15, wherein the field plates are plural and the field plates are formed separately from one another from an inner circumferential side toward an outer circumferential side, and

the auxiliary electrodes are plural and the auxiliary electrodes are formed separately from one another from the inner circumferential side toward the outer circumferential side.

17. The semiconductor device according to claim 15, wherein the auxiliary electrode is made of high-melting-point metal.